



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:

Nordine CHEIKH *et al.*

Appln. No.: 09/300,482

Filed: April 28, 1999

For: Nucleic Acid Molecules and Other Molecules Associated with the  
Phosphogluconate Pathway

Confirmation No.: 4511

Art Unit: 1631

Examiner: Marjorie A. Moran

Atty. Docket: 16517.216

**DECLARATION UNDER 37 C.F.R. § 1.132**

Assistant Commissioner for Patents  
Washington, DC 20231

**BEST AVAILABLE COPY**

Sir:

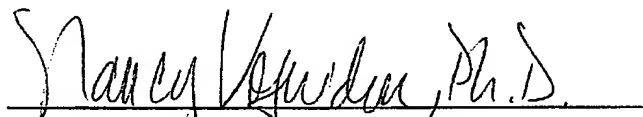
I, **Nancy Vosnidou, Ph.D.**, make the following declaration related to matters that are within my personal knowledge:

1. I am employed as a Patent Scientist at the Monsanto Company, which wholly owns Monsanto Technology LLC, the assignee of the above referenced patent application.
2. I have reviewed the above-captioned application, which was filed April 28, 1999 and assigned Serial No. 09/300,482 (hereinafter the "'482 application"). The '482 application discloses 699 expressed sequence tag sequences (ESTs) derived from corn and soybean having homology to known phosphogluconate pathway enzymes. SEQ ID NO: 1, is identified in the specification as having homology to glucose-6-phosphate-1-dehydrogenase.
3. I hereby certify that I conducted a computer search of an identical copy of the nucleotide database posted by the National Center for Biotechnology Information (NCBI) contained on a

Monsanto local server, on March 30, 2006. The computer search was conducted using a BLASTN query of SEQ ID NO: 1 using the default parameters. The search was further conducted without identifying open reading frames (ORFs) within the sequence prior to the search.

4. I hereby certify that a copy of an alignment between SEQ ID NO: 1 and the top matches resulting from the computer search is attached hereto as appendix A. The alignment shows that SEQ ID NO: 1 has 95% identity to GenBank Accession No. 60672339. This GenBank accession is identified as similar to glucose-6-phosphate dehydrogenase.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

  
\_\_\_\_\_  
Nancy Vosnidou, Ph.D.

Executed on 24 April, 2006.



<HR>  
<PRE>  
<B>BLASTN 2.2.9 [May-01-2004]</B>  
<INPUT TYPE=HIDDEN NAME="hitSeqType" VALUE="DNA">

Reference: Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schaffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", Nucleic Acids Res. 25:3389-3402.

Query= 15365\_SEQID1  
(233 letters)

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC,  
PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
38,492,695 sequences; 23,466,767,293 total letters

Searching.....done

Sequences producing significant alignments:	Score (bits)	E Value
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78119964 description="ZM_BFb0231L16.r ZM_BFb Zea mays cDNA 5'." ... 110	406	e-
67021768 description="MZCCL10150C04.g Maize Endosperm cDNA Libra... 110	406	e-
33103231 description="QCU18e07.yg QCU Zea mays cDNA clone QCU18e... 110	406	e-
33100725 description="QCT12e05.yg QCT Zea mays cDNA clone QCT12e... 110	406	e-
33102685 description="QCU11h06.yg QCU Zea mays cDNA clone QCU11h... 110	406	e-
21209345 description="Zea mays PCO074028 mRNA sequence" library=... 110	406	e-
20301108 description="952083B04.x1 952 - BMS tissue from Walbot ... 100	371	e-
67020820 description="MZCCL10137C11.g Maize Endosperm cDNA Libra... 98	367	1e-
45955391 description="RHOH1_29_G02.g1_A002 Acid- and alkaline-tr... 83	317	1e-
57821683 description="GABR1_66_C09.g1_A002 GA- or brassinolide-t... 83	315	4e-
36019255 description="SCMCSD1059C02.g SD1 Saccharum officinarum ... 82	311	7e-
60672339 description="EST5840 Zea mays embryo sac cDNA library Z... 81	309	3e-
62550618 description="EST7250 Zea mays embryo sac cDNA library Z... 81	309	3e-
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57813598 description="GABR1_16_C06.g1_A002 GA- or brassinolide-t... 79	301	7e-
34949289 description="SCACCL6008B07.g CL6 Saccharum officinarum ... 76	293	2e-

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 34443163 description="PH1\_28\_C06.g1\_A002 Phosphorous-deficient s... 264 1e-67  
 57812762 description="GABR1\_11\_E09.g1\_A002 GA- or brassinolide-t... 258 9e-66  
 35138932 description="SCQAM2107H03.g AM2 Saccharum officinarum ... 256 4e-65  
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 86469135 description="ZM\_BFb0246E12.r ZM\_BFb Zea mays cDNA 5'." ... 226 3e-56  
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Score = 406 bits (205), Expect = e-110  
 Identities = 226/233 (96%)  
 Strand = Plus / Plus

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 Sbjct: 472 gtttttgcagtttagtaaaatgtagtggtcctatgatagggtggaaggatttgagtt 531

Query: 61 attgaatgaggcaatctctgagtagatgagacttcagaaaacaatgactcggaagctaccg 120  
 ||| ||| ||||||||||| ||||| |||||||||||  
 Sbjct: 532 attaaataaggcaatctctgagtagatgaaacttcaaaaacaatgactcggaagctaccg 591

Query: 121 cagattattttatttggcattgcctccatcagtcctacccatcagtatgagagatgataag 180  
 ||||||||||||||| ||||||||||||||||||||||||||||||||| |||||  
 Sbjct: 592 cagattattttatttggcattgcctccatcagtcctacccatcagtatgcaaatgataag 651

Query: 181 atcatattgcatgagtcctatcttcacacaccggttggaaggggtattgttg 233  
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1">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=78119964">NCBI</a> description="ZM\_BFb0231L16.r ZM\_BFb Zea mays cDNA 5'." library=NA species="Zea mays" source="genbank\_est" version=NA type=cDNA Length = 844

Score = 406 bits (205), Expect = e-110  
Identities = 226/233 (96%)  
Strand = Plus / Plus

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Sbjct: 477 gtttttgcagtttagtaaaatatgtagtggtcctatgatagggtggaaggatttgagtt 536

Query: 61 attgaatgaggcaatctctgagtagtagacttcagaaaacaatgactcgggaagctaccg 120  
||| |||  
Sbjct: 537 attaaataaggcaatctctgagtagtagaaacttcaaaaaacaatgactcgggaagctaccg 596

Query: 121 cagattattttatttggcattgcctccatcagctctacccatcagtagcgagatgataag 180  
|||||  
Sbjct: 597 cagattattttatttggcattgcctccatcagctctacccatcagtagcgaatgataag 656

Query: 181 atcatattgcatgagtgcatcttcacacaccggttgacaagggttattgttg 233  
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Score = 406 bits (205), Expect = e-110  
Identities = 226/233 (96%)  
Strand = Plus / Plus

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Sbjct: 184 gtttttgcagtttagtaaaatatgtagtggtcctatgatagggtggaaggatttgagtt 243

Query: 61 attgaatgaggcaatctctgagtagtagacttcagaaaacaatgactcgggaagctaccg 120  
||| |||  
Sbjct: 244 attaaataaggcaatctctgagtagtagaaacttcaaaaaacaatgactcgggaagctaccg 303

Query: 121 cagattatattttatattggcattgcctccatcagtcctacccatcagtatgcgagatgataag 180  
|||||  
Sbjct: 304 cagattatattttatattggcattgcctccatcagtcctacccatcagtatgcaaaatgataag 363

Query: 181 atcatattgcatgagtcctcatcttcacacaccgggttgacaagggttattgttg 233  
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l">Sequence Details</a> <a  
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m=33103231">NCBI</a> description="QCU18e07.yg QCU Zea mays cDNA clone  
QCU18e07." library=NA species="Zea mays"  
source="genbank\_est" version=NA type=cDNA  
Length = 527

Score = 406 bits (205), Expect = e-110  
Identities = 226/233 (96%)  
Strand = Plus / Plus

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Sbjct: 86 gtttttgcagtttagtaaaatgttagtggtcctatgatagggtggaaggatttgagtt 145

Query: 61 attgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcgggaagctaccg 120  
||| |||  
Sbjct: 146 attaaataaggcaatctctgagtatgaaacttcaaaaaacaatgactcgggaagctaccg 205

Query: 121 cagattatattttatattggcattgcctccatcagtcctacccatcagtatgcgagatgataag 180  
|||||  
Sbjct: 206 cagattatattttatattggcattgcctccatcagtcctacccatcagtatgcaaaatgataag 265

Query: 181 atcatattgcatgagtcctcatcttcacacaccgggttgacaagggttattgttg 233  
|||||  
Sbjct: 266 atcatattgcatgagtcctcatcttcacacaccgggttgacaagggttattgttg 318

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href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_val  
ue%3D%2733100725%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xs  
l">Sequence Details</a> <a  
href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&ter  
m=33100725">NCBI</a> description="QCT12e05.yg QCT Zea mays cDNA clone  
QCT12e05." library=NA species="Zea mays"  
source="genbank\_est" version=NA type=cDNA  
Length = 432

Score = 406 bits (205), Expect = e-110  
Identities = 226/233 (96%)  
Strand = Plus / Plus

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Sbjct: 86 gtttttgcagttagtagaaaatatgtttagtggctcctatgatagggtggaaggatttgagtt 145

Query: 61 attgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcgggaagctaccg 120  
||| |||  
Sbjct: 146 attaaataaggcaatctctgagtatgaaacttcaaaaaacaatgactcgggaagctaccg 205

Query: 121 cagattattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataag 180  
|||||  
Sbjct: 206 cagattattttatttggcattgcctccatcagtcctacccatcagtatgcaaaatgataag 265

Query: 181 atcatattgcatgagtcctcatcttcacacaccgggttgacaaggggtattgttg 233  
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l">Sequence Details</a> <a  
href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&ter  
m=33102685">NCBI</a> description="QCU11h06.yg QCU Zea mays cDNA clone  
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source="genbank\_est" version=NA type=cDNA  
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Score = 406 bits (205), Expect = e-110  
Identities = 226/233 (96%)  
Strand = Plus / Minus

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Query: 61 attgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcgggaagctaccg 120  
||| |||  
Sbjct: 385 attaaataaggcaatctctgagtatgaaacttcaaaaaacaatgactcgggaagctaccg 326

Query: 121 cagattattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataag 180  
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Sbjct: 325 cagattattttatttggcattgcctccatcagtcctacccatcagtatgcaaaatgataag 266

Query: 181 atcatattgcatgagtcctcttcacacaccggttgacaagggttattgttg 233  
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Score = 406 bits (205), Expect = e-110  
Identities = 226/233 (96%)  
Strand = Plus / Plus

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Sbjct: 500 gtttttgcagttagtagaaatatgtagtggtcctatgatagggtggaaggatttgagtt 559

Query: 61 attgaatgaggcaatctctgagtagatgagacttcagaaaacaatgactcgggaagctaccg 120  
||| ||| |||||  
Sbjct: 560 attaaataaggcaatctctgagtagatgaaacttcaaaaacaatgactcgggaagctaccg 619

Query: 121 cagattattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataag 180  
|||||  
Sbjct: 620 cagattattttatttggcattgcctccatcagtcctacccatcagtatgcaaaatgataag 679

Query: 181 atcatattgcatgagtcctcttcacacaccggttgacaagggttattgttg 233  
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Score = 371 bits (187), Expect = e-100  
Identities = 220/231 (95%)  
Strand = Plus / Plus



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             |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||  
Sbjct: 111   ttttgcagctagtaaaatatggttagtggtcctatgataggggggaaggatttgagttat 170

Query: 63     tgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcgggaagctaccgca 122  
             ||     ||     ||     ||     ||     ||     ||     ||     ||     ||     ||     ||     ||     ||     ||  
Sbjct: 171   taaataaggcaatctctgagtatgaaacttcaaaaacaatgactcgggaagctaccaca 230

Query: 123   gattattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataagat 182  
             |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||  
Sbjct: 231   gattattttatttggcattgcctccatcagtcctacccatcagtatgcaaaatgataagat 290

Query: 183   catattgcatgagtcctatcttcacacaccggttggaagggttattgttg 233  
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ue%3D%2767020820%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xs  
l">Sequence Details</a> <a  
href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&ter  
m=67020820">NCBI</a> description="MZCCL10137C11.g Maize Endosperm cDNA Library  
Zea mays cDNA." library=NA species="Zea mays"  
source="genbank\_est" version=NA type=cDNA  
Length = 879

Score = 367 bits (185), Expect = 1e-98  
Identities = 223/233 (95%), Gaps = 2/233 (0%)  
Strand = Plus / Plus

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             |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||  
Sbjct: 505   gtttttgcagtttagtaaaatatggttagtggtcctatgataggggtggaaggatttgagtt 564

Query: 61     attgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcgggaagctaccg 120  
             ||     ||     ||     ||     ||     ||     ||     ||     ||     ||     ||     ||     ||     ||     ||  
Sbjct: 565   attaaataaggcgatctctgagtatgaaacttcaaaaacaatgactcgggaagctaccg 624

Query: 121   cagattattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataag 180  
             |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||  
Sbjct: 625   cagattattttatttggcattgcctccatcagtcctacccatcagtatgcaaaatgataag 684

Query: 181   atcatattgcatgagtcctatcttcacacaccggttggaagggttattgttg 233  
             |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||     |||||  
Sbjct: 685   atcatattgcatgagtcctatcttcacacaccggttggaagggttattgttg 735

☒ > <a href="sequenceViewer?seqID=45955391&source=genbank\_est">45955391</a> <a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_value%3D%2745955391%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xml">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=45955391">NCBI</a> description="RHOH1\_29\_G02.g1\_A002 Acid- and alkaline-treated roots Sorghum bicolor cDNA clone RHOH1\_29\_G02\_A002 5'." library=NA species="Sorghum bicolor" source="genbank\_est" version=NA type=cDNA Length = 848

Score = 317 bits (160), Expect = 1e-83  
Identities = 214/232 (92%)  
Strand = Plus / Plus

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||||||| ||| ||||||||||||||||||||||| | |||||||||||||  
Sbjct: 550 tttttgcagctagttaaatatgttagtggtcctatgatagtgggaaggatttgagtta 609

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctaccgc 121  
|| | ||||||||||||||||||| || ||| ||||||||| || ||||||||| |||  
Sbjct: 610 ttaacaaggcaatctctgagtatgaaacatcaaaaaacaatgaatcaggaagctatcgc 669

Query: 122 agattattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataaga 181  
||||||||||||||||||||||||||||||||||||||||| | |||||||||  
Sbjct: 670 agattattttatttggcattgcctccatcagtcctacccatcagtatgcaaaatgataaga 729

Query: 182 tcatattgcatgagtccatcttcacacaccggttgacaagggttattgttg 233  
|| ||||||||| ||||||||||||||||||||||||| |||||||||  
Sbjct: 730 tcgtattgcatgaatccatcttcacacaccggttgacaagggttattgttg 781

☒ > <a href="sequenceViewer?seqID=57821683&source=genbank\_est">57821683</a> <a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_value%3D%2757821683%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xml">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=57821683">NCBI</a> description="GABR1\_66\_C09.g1\_A002 GA- or brassinolide-treated seedlings Sorghum bicolor cDNA clone GABR1\_66\_C09\_A002 5'." library=NA species="Sorghum bicolor" source="genbank\_est" version=NA type=cDNA Length = 774

Score = 315 bits (159), Expect = 4e-83  
Identities = 213/231 (92%)  
Strand = Plus / Plus

Query: 2 tttttgcagtttagtagaatatgttagtggtcctatgatagggtggaaggatttgagtta 61  
||||||| ||| ||||||||||||||||||||||| | |||||||||||||  
Sbjct: 544 tttttgcagctagttaaatatgttagtggtcctatgatagtgggaaggatttgagtta 603

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctaccgc 121  
|| || ||||| ||||| || || || ||||| ||||| ||||| |||||  
Sbjct: 604 ttaaacaaggcaatctctgagtatgaaacatcaaaaaacaatgaatcaggaagctatcgc 663

Query: 122 agattatattttatttggcattgcctccatcagtctacccatcagtatgcgagatgataaga 181  
||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
Sbjct: 664 agattatattttatttggcattgcctccatcagtctacccatcagtatgcaaaatgataaga 723

Query: 182 tcatattgcatgagtcctcttcacacaccggttgacaagggttattgtt 232  
|| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
Sbjct: 724 tcgtattgcatgaatccatcttcacacaccggttgacaagggttattgtt 774

<input type=checkbox name="seqID" value="36019255:genbank\_est:" checked>&gt;<a  
href="sequenceViewer?seqID=36019255&source=genbank\_est">36019255</a> <a  
href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_val  
ue%3D%2736019255%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xs  
l">Sequence Details</a> <a  
href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&ter  
m=36019255">NCBI</a> description="SCMCSD1059C02.g SD1 Saccharum officinarum  
cDNA clone SCMCSD1059C02 5'." library=NA  
species="Saccharum officinarum" source="genbank\_est"  
version=NA type=cDNA  
Length = 711

Score = 311 bits (157), Expect = 7e-82  
Identities = 211/229 (92%)  
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgttagtggtcctatgatagggtggaaggatttgagtta 61  
||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
Sbjct: 59 tttttgcagctagttaaatatgttagtggtcctatgatagggtggaaggatttgagtta 118

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctaccgc 121  
|| || ||||| ||||| ||||| ||||| || || ||||| ||||| ||||| |||||  
Sbjct: 119 ttaaacaaggcactctctgagtatgaaacatcaaaaaacaatgaatcgggaagctatcgc 178

Query: 122 agattatattttatttggcattgcctccatcagtctacccatcagtatgcgagatgataaga 181  
||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
Sbjct: 179 agattatattttatttggcattgcctccatcagtctacccatcagtatgcaaaatgataaga 238

Query: 182 tcatattgcatgagtcctcttcacacaccggttgacaagggttattg 230  
|| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
Sbjct: 239 tcgtattgcatgaatccatcttcacacaccggttgacaagggttattg 287

<input type=checkbox name="seqID" value="60672339:genbank\_est:" checked>&gt;<a  
href="sequenceViewer?seqID=60672339&source=genbank\_est">60672339</a> <a  
href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_val

ue%3D%2760672339%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xsl">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=60672339">NCBI</a> description="EST5840 Zea mays embryo sac cDNA library Zea mays cDNA clone ES12956 5' similar to glucose-6-phosphate dehydrogenase." library=NA species="Zea mays" source="genbank\_est" version=NA type=cDNA Length = 621

Score = 309 bits (156), Expect = 3e-81  
Identities = 180/188 (95%)  
Strand = Plus / Plus

Query: 46 ggaaggatttgagttattgaatgaggcaatctctgagtatgagacttcagaaaacaatga 105  
|||||  
Sbjct: 5 ggaaggatttgagttattaaataaggcaatctctgagtatgaaacttcaaaaaacaatga 64

Query: 106 ctcggggaagctaccgcagattatattttatttggcattgcctccatcagtcctacccatcagt 165  
|||||  
Sbjct: 65 ctcggggaagctaccacagattatattttatttggcattgcctccatcagtcctacccatcagt 124

Query: 166 atgcgagatgataagatcatattgcatgagtcctcttcacacacgggttgacaagggt 225  
|||||  
Sbjct: 125 atgcaaatgataagatcatattgcatgagtcctcttcacacactgggttgacaagggt 184

Query: 226 tattgttg 233  
|||||  
Sbjct: 185 tattgttg 192

<input type=checkbox name="seqID" value="62550618:genbank\_est:" checked>&gt;<a href="sequenceViewer?seqID=62550618&source=genbank\_est">62550618</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=62550618">NCBI</a> description="EST7250 Zea mays embryo sac cDNA library Zea mays cDNA clone ES14608 5' similar to glucose-6-phosphate dehydrogenase." library=NA species="Zea mays" source="genbank\_est" version=NA type=cDNA Length = 624

Score = 309 bits (156), Expect = 3e-81  
Identities = 180/188 (95%)  
Strand = Plus / Plus

Query: 46 ggaaggatttgagttattgaatgaggcaatctctgagtatgagacttcagaaaacaatga 105  
|||||  
Sbjct: 5 ggaaggatttgagttattaaataaggcaatctctgagtatgaaacttcaaaaaacaatga 64

Query: 106 ctcgggaagctaccgcagattatTTTTATTGGCATTGCCTCCATCAGTCTACCCATCAGT 165  
|||||  
Sbjct: 65 ctcgggaagctaccacagattatTTTTATTGGCATTGCCTCCATCAGTCTACCCATCAGT 124

Query: 166 atgcgagatgataagatcatattgcatgagtcctcttcacacaccgggttgacaaggggt 225  
|||||  
Sbjct: 125 atgcaaatgataagatcatattgcatgagtcctcttcacacactgggttgacaaggggt 184

Query: 226 tattgttg 233  
|||||  
Sbjct: 185 tattgttg 192

<input type=checkbox name="seqID" value="35138042:genbank\_est:" checked>&gt;<a href="sequenceViewer?seqID=35138042&source=genbank\_est">35138042</a> <a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_value%3D%2735138042%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xml">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=35138042">NCBI</a> description="SCCST3C01H12.g ST3 Saccharum officinarum cDNA clone SCCST3C01H12 5'." library=NA species="Saccharum officinarum" source="genbank\_est" version=NA type=cDNA Length = 689

Score = 303 bits (153), Expect = 2e-79  
Identities = 210/229 (91%)  
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgttagtggctcctatgatagggtggaaggatttgagtta 61  
|||||  
Sbjct: 405 tttttgcagctagttaaatatgttagtggctcctatgatagggtggaaggatttgagttg 464

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctaccgc 121  
|||  
Sbjct: 465 ttaacaaggcaatctctgagtatgaaacatcaaaaaacaatgaatcaggaagctatcgc 524

Query: 122 agattatTTTATTGGCATTGCCTCCATCAGTCTACCCATCAGTATGCGAGATGATAAGA 181  
|||||  
Sbjct: 525 agattatTTTATTGGCATTGCCTCCATCAGTCTACCCATCAGTATGCAAAATGATAAGA 584

Query: 182 tcatttgcattgagtcctcttcacacaccgggttgacaaggggttattg 230  
|||  
Sbjct: 585 tcgtattgcattgaatccatcttcacacaccgggttgacaaggggttattg 633

<input type=checkbox name="seqID" value="57813598:genbank\_est:" checked>&gt;<a href="sequenceViewer?seqID=57813598&source=genbank\_est">57813598</a> <a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_value%3D%2757813598%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xml">Sequence Details</a>

l">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=57813598">NCBI</a> description="GABR1\_16\_C06.g1\_A002 GA- or brassinolide-treated seedlings Sorghum bicolor cDNA clone GABR1\_16\_C06\_A002 5'." library=NA species="Sorghum bicolor" source="genbank\_est" version=NA type=cDNA Length = 786

Score = 301 bits (152), Expect = 7e-79  
Identities = 212/232 (91%)  
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgtagtggtcctatgatagggtggaaggatttgagtta 61  
||||||| ||| ||||||||| ||||||||| ||||||||| ||||||||| ||  
Sbjct: 545 tttttgcagctagttaaatatgtagtggtcctatgatagggtggaaggatttgagtta 604

Query: 62 ttgaatgaggcaatctctgagtagagacttcagaaaacaatgactcggaagctaccgc 121  
|| || ||||||||| ||||||||| || ||| || ||||||||| || ||||||||| ||  
Sbjct: 605 ttaacaaggcaatctccgagtagaaacatcaagaacaatgaatcaggaagctatcgc 664

Query: 122 agattattttatttggcattgcctccatcagtctacccatcagtagcgagatgataaga 181  
||||||||| ||||||||| ||||||||| ||||||||| ||||||||| ||  
Sbjct: 665 agattattttatttggcattgcctccatcagtctacccatcagtagcgaatgataaga 724

Query: 182 tcatattgcatgagtcctcttcacacaccggttgacaagggttattgttg 233  
|| ||||||||| ||||||||| ||||||||| ||||||||| ||||||||| ||  
Sbjct: 725 tcgtattgcatgaatccatcttcacacaccggttgacaagggttattgttg 776

<input type=checkbox name="seqID" value="34949289:genbank\_est:" checked>&gt;<a href="sequenceViewer?seqID=34949289&source=genbank\_est">34949289</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=34949289">NCBI</a> description="SCACCL6008B07.g CL6 Saccharum officinarum cDNA clone SCACCL6008B07 5'." library=NA species="Saccharum officinarum" source="genbank\_est" version=NA type=cDNA Length = 698

Score = 293 bits (148), Expect = 2e-76  
Identities = 211/232 (90%)  
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgtagtggtcctatgatagggtggaaggatttgagtta 61  
||||||| ||| ||||||||| ||||||||| ||||||||| ||||||||| ||  
Sbjct: 243 tttttgcagctagttaaatatgtagtggtcctatgatagggtggaaggatttgagtca 302

Query: 62 ttgaatgaggcaatctctgagtagagacttcagaaaacaatgactcggaagctaccgc 121  
|| || ||||||||| ||||||||| || ||| || ||||||||| || ||||||||| ||

Sbjct: 303 ttaaacaaggcaatctctgagtgatgaaacatcaaaaaacaatgaatcaagaagctatcgc 362

Query: 122 agattatattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataaga 181  
|||||

Sbjct: 363 agattatattttatttggcattgcctccatcagtcctacccatcagtatgcaaaatgataaga 422

Query: 182 tcatattgcatgagtcctcctcacacaccgggtggacaagggttattgttg 233  
||

Sbjct: 423 tcgtattgcatgaatccatcttcacacaccgggtggacaagggttattgttg 474

<input type=checkbox name="seqID" value="45981870:genbank\_est:" checked>&gt;<a href="sequenceViewer?seqID=45981870&source=genbank\_est">45981870</a> <a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_val ue%3D%2745981870%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xs l">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=45981870">NCBI</a> description="WOUND1\_18\_A03.g1\_A002 Wounded leaves Sorghum bicolor cDNA clone WOUND1\_18\_A03\_A002 5'." library=NA species="Sorghum bicolor" source="genbank\_est" version=NA type=cDNA Length = 728

Score = 287 bits (145), Expect = 1e-74  
Identities = 212/233 (90%), Gaps = 1/233 (0%)  
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgttagtggtcctctatgatagggtggaaggatttgagtta 61  
|||||

Sbjct: 496 tttttgcagctagttaaatgttagtggtcctctatgatagggtggaaggatttgagtta 555

Query: 62 ttgaatgaggcaatctctgagtgatgagacttcagaaaa-caatgactcgggaagctaccg 120  
||

Sbjct: 556 ttaaacaaggcaatctctgagtgatgaaacatcaaaaaacaatgaatcaggaagctatcg 615

Query: 121 cagattatattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataag 180  
|||||

Sbjct: 616 cagatgattttatttggcattgcctccgctcagtcctacccatcagtatgcaaaatgataag 675

Query: 181 atcatattgcatgagtcctcctcacacaccgggtggacaagggttattgttg 233  
|||

Sbjct: 676 atcgtattgcatgaatccatcttcacacaccgggtggacaagggttattgttg 728

<input type=checkbox name="seqID" value="45997222:genbank\_est:" checked>&gt;<a href="sequenceViewer?seqID=45997222&source=genbank\_est">45997222</a> <a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_val ue%3D%2745997222%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xs l">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=45997222">NCBI</a> description="WOUND1\_84\_F10.g1\_A002 Wounded leaves Sorghum

bicolor cDNA clone WOUND1\_84\_F10\_A002 5'." library=NA  
species="Sorghum bicolor" source="genbank\_est"  
version=NA type=cDNA  
Length = 759

Score = 270 bits (136), Expect = 2e-69  
Identities = 196/216 (90%)  
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaataatgttagtggctcctatgataggggtggaaggatttgagtta 61  
||||||| ||| ||||||||| ||||||||| ||||||||| ||||||||| ||  
Sbjct: 544 tttttgcagctagttaaatatgttagtggctcctatgatagtggggaaggatttgagtta 603

Query: 62 ttgaatgaggcaatctctgagtagagacttcagaaaacaatgactcggaagctaccgc 121  
|| || ||||||||| ||||||||| || || ||||||||| || ||||||||| ||  
Sbjct: 604 ttaaacaaggcaatctctgagtagaaacatcaaaaaacaatgaatcacgaagctatcgc 663

Query: 122 agattattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataaga 181  
||||||| ||||||||| ||||||||| ||||||||| ||||||||| || || |||||||  
Sbjct: 664 agattattttatttggcattgcctccatcagtcctacccatcagtatgcaaaattataaga 723

Query: 182 tcatattgcatgagtccatcttcacacaccggttg 217  
|| ||||||||| ||||||||| ||||||||| ||  
Sbjct: 724 tcgtattgcatgaatccatcttcacacaccggttg 759

<input type=checkbox name="seqID" value="34443163:genbank\_est:" checked>&gt;<a  
href="sequenceViewer?seqID=34443163&source=genbank\_est">34443163</a> <a  
href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_val  
ue%3D%2734443163%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xs  
l">Sequence Details</a> <a  
href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&ter  
m=34443163">NCBI</a> description="PH1\_28\_C06.g1\_A002 Phosphorous-deficient  
seedlings Sorghum bicolor cDNA clone PH1\_28\_C06\_A002  
5'." library=NA species="Sorghum bicolor"  
source="genbank\_est" version=NA type=cDNA  
Length = 795

Score = 264 bits (133), Expect = 1e-67  
Identities = 205/227 (90%), Gaps = 4/227 (1%)  
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaataatgttagtggctcctatgata---gggtggaaggatttgag 58  
||||||| ||| ||||||||| ||||||||| || || || ||||||||| ||  
Sbjct: 570 tttttgcagctagttaaatatgttagtggctcctat-ataagtgggggaaaggatttgag 628

Query: 59 ttattgaatgaggcaatctctgagtagagacttcagaaaacaatgactcggaagctac 118  
||||| || ||||||||| ||||||||| || || ||||||||| || |||||||||  
Sbjct: 629 ttattaaacaaggcaatctctgagtagaaacatcaaaaaacaatgaatcaggaagctat 688



Query: 119 cgcagattatattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgata 178  
|||||  
Sbjct: 689 cgcagattatattttatttggcattgcctccatcagtcctacccatcagtatgcaaaatgata 748

Query: 179 agatcatattgcatgagtcctcttcacacaccgggttgacaagggt 225  
|||||  
Sbjct: 749 agatcgtattgcatgaatccatcttcacacaccgggttgacaagggt 795

<input type=checkbox name="seqID" value="57812762:genbank\_est:" checked>&gt;<a href="sequenceViewer?seqID=57812762&source=genbank\_est">57812762</a> <a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_value%3D%2757812762%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xml">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=57812762">NCBI</a> description="GABR1\_11\_E09.g1\_A002 GA- or brassinolide-treated seedlings Sorghum bicolor cDNA clone GABR1\_11\_E09\_A002 5'." library=NA species="Sorghum bicolor" source="genbank\_est" version=NA type=cDNA Length = 746

Score = 258 bits (130), Expect = 9e-66  
Identities = 184/202 (91%)  
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgttagtggctcctatgatagggtggaaggatttgagtta 61  
|||||  
Sbjct: 545 tttttgcagctagttaaatatgttagtggctcctatgatagtggggaaggatttgagtta 604

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctaccgc 121  
|| ||  
Sbjct: 605 ttaaacaaggcaatctctgagtatgaaacatcaaaaaacaatgaatcaggaagctatcgc 664

Query: 122 agattatattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataaga 181  
|||||  
Sbjct: 665 agattatattttatttggcattgcctccatcagtcctacccatcagtatgcaaaatgataaga 724

Query: 182 tcatattgcatgagtcctctt 203  
||  
Sbjct: 725 tcgtattgcatgaatccatctt 746

<input type=checkbox name="seqID" value="35138932:genbank\_est:" checked>&gt;<a href="sequenceViewer?seqID=35138932&source=genbank\_est">35138932</a> <a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_value%3D%2735138932%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xml">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=35138932">NCBI</a> description="SCQGAM2107H03.g AM2 Saccharum officinarum cDNA clone SCQGAM2107H03 5'." library=NA species="Saccharum officinarum" source="genbank\_est" version=NA type=cDNA

Length = 658

Score = 256 bits (129), Expect = 4e-65  
Identities = 156/165 (94%)  
Strand = Plus / Plus

Query: 69 aggcaatctctgagtatgagacttcagaaaacaatgactcggggaagctaccgcagattat 128  
|||||||  
Sbjct: 3 aggcaatctctgagtatgaaacatcaaaaaacaatgaatcggggaagctatcgagattat 62

Query: 129 tttatattggcattgcctccatcagttctacccatcagtatgcgagatgataagatcatatt 188  
|||||||  
Sbjct: 63 tttatattggcattgcctccatcagttctacccatcagtatgcaaaatgataagatcgtatt 122

Query: 189 gcatgagtgccatcttcacacaccggttggaaggggtattgttg 233  
|||||||  
Sbjct: 123 gcatgaatccatcttcacacaccggttggaaggggtattgttg 167

☒ > <a href="sequenceViewer?seqID=35278891&source=genbank\_est">35278891</a> <a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_val ue%3D%2735278891%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xs l">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=35278891">NCBI</a> description="SCEZFL4039C11.g FL4 Saccharum officinarum cDNA clone SCEZFL4039C11 5'." library=NA species="Saccharum officinarum" source="genbank\_est" version=NA type=cDNA Length = 768

Score = 232 bits (117), Expect = 5e-58  
Identities = 205/233 (87%), Gaps = 1/233 (0%)  
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgttagtggtctctatgatagggtggaaggatttgagtta 61  
|||||||  
Sbjct: 465 tttttgcagctagtttaaatatgttagtggtctctatgatagggtggaaggatttgagtta 524

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggggaagctaccgc 121  
|| ||  
Sbjct: 525 ttaacaaggcaatctctgagtatgaaacatcaaaaaacaatgaatcggggaagctatcgc 584

Query: 122 agattattttatattggcattgcctccatcagttctacccatcagtatgcgagatgataaga 181  
|||||||  
Sbjct: 585 agattattttatattggcattgcttcatcagttctacccatcagtatgcaaaatgattaga 644

Query: 182 tcatattgcatgagtgccatcttcacacaccggttgga-caagggttattgttg 233  
||  
Sbjct: 645 tcggattgcatgaaatcatcttcacacaccggttggaaccaagggttattgttg 697

<input type=checkbox name="seqID" value="86469135:genbank\_est:" checked>&gt;<a href="sequenceViewer?seqID=86469135&source=genbank\_est">86469135</a> <a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_value%3D%2786469135%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xml">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=86469135">NCBI</a> description="ZM\_BFb0246E12.r ZM\_BFb Zea mays cDNA 5'." library=NA species="Zea mays" source="genbank\_est" version=NA type=cDNA Length = 611

Score = 226 bits (114), Expect = 3e-56  
Identities = 129/134 (96%)  
Strand = Plus / Plus

Query: 2 tttttgcagtttagtagaatatgtagtggtcctatgatagggtggaaggatttgagtta 61  
|||||  
Sbjct: 478 tttttgcagtttagtaaaatatgtagtggtcctatgatagggtggaaggatttgagtta 537

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctaccgc 121  
|| |||  
Sbjct: 538 ttaaataaggcaatctctgagtatgaaacttcaaaaaacaatgactcggaagctaccgc 597

Query: 122 agattattttattt 135  
|||||  
Sbjct: 598 agattattttattt 611

<input type=checkbox name="seqID" value="49455184:genbank\_est:" checked>&gt;<a href="sequenceViewer?seqID=49455184&source=genbank\_est">49455184</a> <a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq\_id%2Fid\_value%3D%2749455184%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xml">Sequence Details</a> <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=49455184">NCBI</a> description="MJR031G10 Methyl jasmonate-treated root Lambda ZIPLOX Library (MJR) Saccharum sp. cDNA clone MJR062E04 5' similar to glucose-6-phosphate dehydrogenase." library=NA species="Saccharum sp." source="genbank\_est" version=NA type=cDNA Length = 376

Score = 212 bits (107), Expect = 5e-52  
Identities = 143/156 (91%)  
Strand = Plus / Plus

Query: 78 ctgagtatgagacttcagaaaacaatgactcggaagctaccgcagattattttatttgg 137  
||| ||||| || |||  
Sbjct: 18 ctgngtatgaaacatnanaaaacaatgaatcaagaagctatcgagattattttatttgg 77

Query: 138 cattgcctccatcagttctacccatcagtatgogagatgataagatcatattgcatgagtc 197

|||||  
Sbjct: 78 cattgcctccatcagtcctacccatcagtatgcaaaatgataagatcgtattgcatgaatc 137

Query: 198 catctttcacacaccggttggaagaagggttattgttg 233

|||||  
Sbjct: 138 catctttcacacaccggttggaagaagggttattgttg 173

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:13 PM  
Number of letters in database: 937,495,304  
Number of sequences in database: 629,443

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:16 PM  
Number of letters in database: 923,029,544  
Number of sequences in database: 675,893

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:19 PM  
Number of letters in database: 918,994,864  
Number of sequences in database: 717,011

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:22 PM  
Number of letters in database: 872,212,624  
Number of sequences in database: 890,994

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:25 PM  
Number of letters in database: 727,928,668  
Number of sequences in database: 1,612,608

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:28 PM  
Number of letters in database: 770,454,229  
Number of sequences in database: 1,841,517

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:31 PM  
Number of letters in database: 751,537,354  
Number of sequences in database: 1,649,902

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:34 PM  
Number of letters in database: 804,957,458  
Number of sequences in database: 1,377,732

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:39 PM  
Number of letters in database: 674,836,374  
Number of sequences in database: 1,794,151

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:42 PM  
Number of letters in database: 771,112,785  
Number of sequences in database: 1,417,437

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:45 PM  
Number of letters in database: 778,599,445  
Number of sequences in database: 1,379,262

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:49 PM  
Number of letters in database: 795,162,534  
Number of sequences in database: 1,358,269

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:52 PM  
Number of letters in database: 795,846,631  
Number of sequences in database: 1,349,677

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:56 PM  
Number of letters in database: 758,471,273  
Number of sequences in database: 1,493,133

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 2:59 PM  
Number of letters in database: 799,469,308  
Number of sequences in database: 1,318,767

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:02 PM  
Number of letters in database: 807,279,523  
Number of sequences in database: 1,289,115

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:06 PM  
Number of letters in database: 797,258,625  
Number of sequences in database: 1,365,557

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:11 PM  
Number of letters in database: 785,281,935  
Number of sequences in database: 1,395,907

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:15 PM  
Number of letters in database: 793,930,244  
Number of sequences in database: 1,317,716

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:19 PM  
Number of letters in database: 782,893,843  
Number of sequences in database: 1,386,920

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:22 PM  
Number of letters in database: 781,959,849  
Number of sequences in database: 1,431,387

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:25 PM  
Number of letters in database: 801,325,451  
Number of sequences in database: 1,305,614

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:28 PM  
Number of letters in database: 810,443,508  
Number of sequences in database: 1,256,195

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:31 PM  
Number of letters in database: 791,952,159  
Number of sequences in database: 1,257,465

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:34 PM  
Number of letters in database: 814,678,444  
Number of sequences in database: 1,182,353

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:37 PM  
Number of letters in database: 812,835,524  
Number of sequences in database: 1,237,994

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:40 PM  
Number of letters in database: 818,500,554  
Number of sequences in database: 1,353,259

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:44 PM  
Number of letters in database: 792,475,637  
Number of sequences in database: 1,458,981

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:47 PM  
Number of letters in database: 741,997,156  
Number of sequences in database: 1,382,357

Database: Predefined collection GenBankCDNA: -source  
"DDBJ\_EST,DDBJ\_NUC,EMBL\_EST,EMBL\_NUC,GENBANK\_EST,GENBANK\_NUC,OTHER\_EST,OTHER\_NUC  
,PDB\_EST,PDB\_NUC,UNKNOWN\_EST,UNKNOWN\_NUC" -type "CDNA" -maxLength 250000 -chunk  
Posted date: Mar 28, 2006 3:49 PM  
Number of letters in database: 253,846,446  
Number of sequences in database: 366,079

Lambda	K	H
1.37	0.711	1.31

Gapped

Lambda	K	H
1.37	0.711	1.31

Matrix: blastn matrix:1 -3  
Gap Penalties: Existence: 5, Extension: 2  
Number of Hits to DB: 2,678,570  
Number of Sequences: 38492695  
Number of extensions: 2678570  
Number of successful extensions: 660781  
Number of sequences better than 10.0: 190  
Number of HSP's better than 10.0 without gapping: 187  
Number of HSP's successfully gapped in prelim test: 3  
Number of HSP's that attempted gapping in prelim test: 660488  
Number of HSP's gapped (non-prelim): 284  
length of query: 233  
length of database: 23,466,767,293  
effective HSP length: 22  
effective length of query: 211  
effective length of database: 22,619,928,003  
effective search space: 4772804808633  
effective search space used: 4772804808633  
T: 0  
A: 0  
X1: 6 (11.9 bits)  
X2: 15 (29.7 bits)  
S1: 12 (24.3 bits)  
S2: 20 (40.1 bits)

</PRE>



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